IT470- Foundations of Computational and Systems Biology

Home Work 2

Due date: September 4^{th}, 2007

(1) Download the complete genomic sequence of *Bacteriophage lambda*, accession number NC_{001416} from GeneBank and analyze its *GC* content with various choices of window size.

(2) Find *ORFs* in H. *influenzae* (NC_{000907}). Try various choices of length threshold. How does this effect the number of *ORFs* you find?

(3) Write down a dynamic programing algorithm to find the best alignment for 3 sequences. Write all your assumptions clearly. Also compute the running time of this algorithm.